In the processing at step S4-40 in the third embodiment, rather than defining a viewing camera in dependence upon the generated three-dimensional computer model (as in the first embodiment), view parameter calculator 44 generates data defining a perspective camera as in the first embodiment, but then positions the camera at a position having an x coordinate of 0, a y coordinate of +20, and a z coordinate equal to half of the height of the subject object defined in the data sent by the customer processing apparatus at step S4-18. The viewing direction of the camera is defined to be parallel to the y axis in the negative y-axis direction.

In this way, the viewing axis of the virtual viewing camera will still intersect the approximate centre of the 3D computer model of the subject object 210 because the subject object 210 will be substantially centred on the photographic mat relative to the calibration pattern when the initial images are recorded by camera 16 (and hence the centre of the base of the subsequently generated 3D computer model will be approximately at the origin of the modelling coordinate system) and because the height of the virtual viewing camera for the 3D computer model (that is its height above the y-axis in the coordinate system) is set to be half of the subject object height.

Fourth Embodiment

A fourth embodiment of the present invention will now be described.

The components of the fourth embodiment and the processing operations performed by the components are the same as those in the second embodiment, with the exception that, in the 3D coordinate system in which each calibration pattern is defined and in which the 3D computer model is generated, the y coordinate of the plane in which the calibration pattern lies is not fixed at -1.0 (that is, one unit below the z-axis) but instead is set in dependence upon the height of the subject object 210.

More particularly, in the fourth embodiment, at step S4-14, as well as generating data requesting information from the customer processing apparatus defining the type of printer 18 or display panel 19 and data defining the maximum width of the subject object 210, mat data generator 38 also generates data requesting the customer processing apparatus to send data defining the height of the subject object 210.

Accordingly, at step S4-18 in the third embodiment, the customer processing apparatus transmits a signal 7 to processing apparatus 6 defining the requested printer/display details, maximum width of the subject object 210 and also the height of the subject object 210.

Upon receipt of the data defining the height of the subject object 210, processing apparatus 6 performs an additional processing step in the third embodiment to set the y coordinate of the plane in which the calibration pattern lies to be minus one half of the height of the subject object 210.

Thus, for example, each calibration pattern in calibration pattern 37 may be stored in a plane having a y coordinate of 0.0, and the calibration pattern selected at step S4-20 may then be repositioned in the coordinate system to a plane having a y coordinate of minus one half of the height of the subject object 210.

Consequently, in subsequent processing, the 3D computer model of the subject object is generated relative to the re-positioned calibration pattern in the coordinate system and accordingly the viewing axis of the default viewing camera intersects the approximate centre of the